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Summary

Results of treatment of irritable colon with diathermy and medical management are presented as a preliminary report.

From our observations, diathermy is a beneficial adjunct in the treatment of irritable colon.

A larger number of detailed and controlled studies should be made before final conclusions are drawn.

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DIATHERMY IN THE TREATMENT OF IRRITABLE COLON

Preliminary Report *

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Spasm in the gastrointestinal tract commonly is treated with heat obtained from a hot water bottle, electric pad or hot compresses. In the following cases of irritable colon, short wave diathermy was used as an adjunct to the usual forms of therapy. Of a series of 50 cases, short wave diathermy was given adequate trial in 25 cases which are included in this preliminary report.

Irritable colon is a variable syndrome due to a functional disturbance of the colon with or without concomitant symptoms referable to other parts of the gastrointestinal tract. The term irritable colon does not refer to simple constipation or diarrhea unless the dysfunction is related directly to the chief cause of the patient's abdominal distress. Synonyms for irritable colon include colitis, spastic constipation, mucous colitis, unstable colon and nervous indigestion. To make the diagnosis of irritable colon, any organic disease, not only of the intestinal tract but of any other organ, must be excluded positively.

In this report, we are not introducing a new method of therapy. The value of heat in the treatment of spasm of the smooth muscle has long been recognized. Roosen[1] in 1928 said, "While the sedative, antispasmodic effect of diathermy is well known, and is used successfully in the treatment of spastic constipation, the knowledge of its effect of promoting peristalsis is not widely distributed." In the voluminous literature on irritable colon, innumerable references emphasize the beneficial effect of heat, often stated in general or nonspecific terms, and rarely is diathermy even suggested.

Rendall[2] in discussing diathermy in the treatment of obstinate constipation, said, "Diathermy is hardly mentioned in English textbooks in connection with the treatment of constipation." She further stated that "heat is the best means of relaxing any muscular spasm and, while relaxing the abnormal contractions, normal peristalsis can be encouraged by means of improved blood-supply."

Salient evidence that a spastic colon is relaxed by local diathermy has been presented by Osgood.[3] He observed this by filling the colon with barium sulfate and watching the effects of diathermy under fluoroscopy.

DePew[4] found diathermy of value in cases of constipation, especially those in which there was considerable soreness of the abdomen.

Kovács,[5] Johnsen,[6] Fishbaugh[7] and a report by the Council on Physical Therapy of the American Medical Association[8] stated that diathermy was found to be beneficial. On the other hand, Weissenberg[9] observed that some patients responded readily to diathermy while others did not.

"From these conflicting reports as to the effectiveness of the short wave

* Read at the Eastern Sectional Meeting of the American Congress of Physical Therapy, New York, April 5, and the Southeastern Sectional Meeting of the American Congress of Physical Therapy, Chattanooga, Tennessee, May 26, 1941.

current in the treatment of gastrointestinal diseases," Bierman[9] said, "more data is necessary before its exact possibilities in this field can be determined. Difficulties in evaluation may arise from the natural tendency to utilize concomitantly such measures as rest, dietary changes, and medication."

Our interest in this subject was stimulated by (1) the paucity of adequate reports or studies, (2) the determination and evaluation of the effect of deep heating, (3) a search for a quicker and more efficient method of dealing with severe irritable colon and (4) the need of indications for this type of therapy.

In this series all the patients had a complete physical examination and the usual laboratory tests, including urinalysis, red and white blood cell counts, hemoglobin determination, blood sugar estimation and Wassermann and Kahn tests of the blood. In addition, all but 2 had one to fourteen stool examinations, most of which were special studies for parasites. Twenty of the 25 patients had one or more proctosigmoidoscopic examinations. Twenty-one had complete roentgen studies of the gastrointestinal tract, with oral administration of cholecystographic dye, a barium sulfate meal and a barium sulfate enema. In 4 instances, only colonic examination with a barium sulfate enema was done. Pyelograms, roentgenograms of the chest, etc., were made when indicated.

Of the 25 patients, 18 were women. The ages varied from 24 to 73 years. The duration of symptoms varied from one to four hundred and twenty months (thirty-five years). Pain of varying degree was the predominant symptom.

Short wave diathermy of 24 meters, utilizing electromagnetic induction, was used for all the patients. The abdomen was covered with four thick-

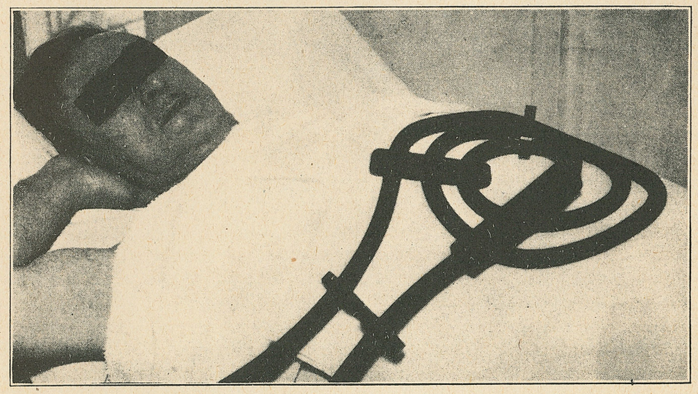

Fig. 1. — Position of cable during treatment.

nesses of turkish toweling, and the cable was coiled into three loops. The treatments were given daily at a comfortable intensity. When treatment was given once daily it was thirty minutes in length, and when it was given twice daily each period was twenty minutes in length. When it was given twice daily the morning treatment was given as early as possible and the second in the late afternoon.

Our results were analyzed from the viewpoint of immediate and delayed response. The period of immediate response was considered to continue during the treatment, and for two hours afterward. Delayed response was that obtained two days or more after diathermy treatment was started.

The results were further analyzed according to the time diathermy was started in relation to medical management. The medical management in all cases consisted of rest in bed, use of antispasmodics, adequate sedation, dietary supervision, bowel regulation by the judicious use of oil retention or small enemas of saline solution and the application of an electric pad to the abdomen every other hour during the waking hours.

We do not believe that our results obtained by diathermy are invalidated because the patients received multiple therapy. In 7 of 11 instances, as will be shown later, the patients received an adequate trial of the strictest form of medical management without any significant improvement. When diathermy was added to the regimen, the beneficial effect was gratifying.

The immediate results were satisfactory in 8 patients, unsatisfactory in 10 and inconclusive or questionable in 7. On the other hand, the delayed results were satisfactory in 17 patients, unsatisfactory in 7 and inconclusive in 1. Apparently the better delayed results were due to the fact that all the patients had severe symptoms of irritable colon necessitating hospitalization; one would not expect sudden or dramatic improvement in such patients. This fact emphasizes the necessity of continuing the diathermy treatment for at least several days. The number of satisfactory delayed results would indicate the value of diathermy. As additional evidence of this value, we observed that there were 7 of 11 patients who had adequate strict bowel management for five to twenty-one days without relief of symptoms but whose improvement was rapid and satisfactory when diathermy was added to the regimen. The immediate response to diathermy was good in only 2 of these patients, but the delayed improvement was satisfactory in 7. If

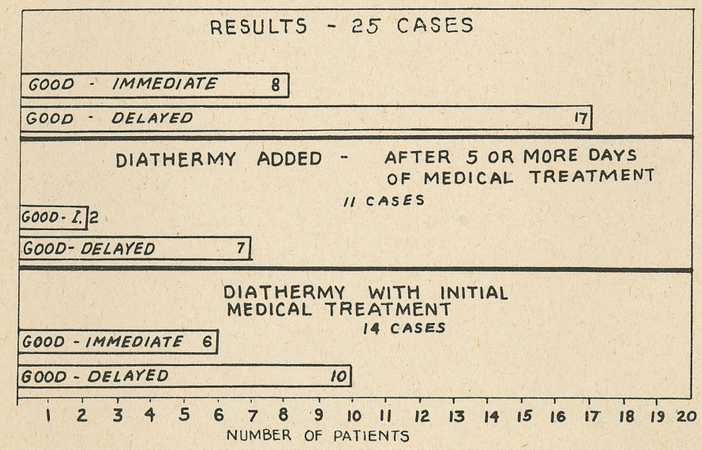

Fig. 2. — Graphic summary of results.

diathermy is incorporated in the treatment from the beginning the results are even more gratifying, because 6 of 14 patients had immediate improvement and 10 of the 14 had delayed improvement.

Comment

We realize that this series is too small to warrant any definite conclusions as to the value of short wave diathermy in the treatment of irritable colon. However, it would seem from the data that diathermy does have a

definite place in the treatment. Because of gratifying immediate and delayed results obtained in the group of patients treated initially with short wave diathermy and medical management, we now more or less routinely start with the combined treatment in cases of severe irritable colon. We are not yet in a position to state whether treatment is more beneficial if given twice daily or once daily. Our results thus far reveal a slight but insignificant difference in favor of treatments twice daily. Analysis of the 7 failures to obtain relief revealed that 6 patients had a marked neurosis and cooperated poorly. We also observed in many of the cases not used in this report that a complicating organic disease may nullify the beneficial effects of diathermy. The seventh patient whose treatment failed obtained some improvement but not enough, in our opinion, to be classified as a satisfactory result. Nevertheless, the patient derived enough benefit so that when she had a recurrence of distress several months later, she returned to the hospital and asked for diathermy treatments.

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